proposed; to help those members of professions which have no benevolent funds; to provide assistance for the families of professional men who have given up all to enlist for the service of their country. All those who have this need at heart are invited to send donations to the treasurer, Professional Classes War Relief Council, 13 and 14, Prince's Gate, S.W. Cheques to be crossed Messrs. Coutts and Co.

SOCIETIES AND ACADEMIES.

LONDON.

Zoological Society, October 27.—Prof. E. A. Minchin, vice-president, in the chair.—E. **Heron-Allen** and A. **Earland**: Foraminifera of the Kerimba Archipelago, obtained by Dr. J. J. Simpson in the years 1907–8. The area is new so far as the Foraminifera are concerned, the only records in any way approximating to it being the species described by d'Orbigny in 1826, by Brady in 1876 and 1884, by Möbius in 1880, and by Egger in 1893, from material which was collected from adjacent areas to the east of Madagascar, and off Mauritius and the Seychelles. The material consisted of fine siftings from dredgings, and having but few molluscan fragments and stones the larger adherent forms are poorly represented, but 470 species and varieties have been identified, including two new genera, and twenty-eight new species and varieties. The general facies is strikingly similar to that characteristic of Australian, Torres Straits, and Malay gatherings. The problem of distribution thus raised is obscure, the intervening ocean being abyssal, while the species now recorded are all shallow-water types. Many of the specialised forms common to these widely separated areas do not apparently occur in similar dredgings from intervening coasts, such as the Red and Arabian Seas. No doubt the equatorial current, which traverses the Indian Ocean from E. to W. and impinges on the African coast in our area, is primarily responsible for this phenomenon.—T. H. **Withers**: A new Cirripede. The description was based on a number of disconnected valves from the Chalk of Surrey and a complete specimen from the Chalk of Hertfordshire. Except for three valves referred to a new species of *Scalpellum* (*sensu lato*), the whole of the material belongs to a remarkable new asymmetrical Cirripede which differs from Verruca in the more primitive structure of the valves, in the presence of two lower lateral valves on the rostro-carinal side, and in the absence of interlocking ribs. This species represents the ancestral type from which has arisen the recent group of asymmetrical sessile Cirripedes forming the family Verrucidæ, and in its structure clearly shows its origin from the symmetrical pedunculate Cirripedes of the family Pollicipedidæ. It presents further evidence that the sessile condition was arrived at independently on several different lines of descent during the evolution of the Cirripedia.—W. L. **Distant**: Report on the Rhynchota collected by the Wollaston Expedition in Dutch New Guinea.

Challenger Society, October 28.—Dr. S. F. Harmer in the chair.—Dr. E. J. **Allen**: The artificial culture of marine plankton diatoms. Experiments were described in which it was attempted to grow cultures of the diatom *Thalassiosira gravida* in a medium containing only pure chemical salts dissolved in doubly distilled water, the medium having a composition as nearly as possible that of natural sea-water, with the addition of Miquel's nutrient solutions. In such purely artificial solutions little growth took place, but if a small percentage, even less than 1 per cent., of natural sea-water were added, large and vigorous cultures were obtained. There are reasons for supposing that this is due to the presence in the natural sea-water of minute traces of an organic substance which acts as a growth-stimulant. Provided that the small percentage of natural sea-water be present, the amounts of the various salts constituting the artificial sea-water, as well as the total salinity of the mixture, can be varied within wide limits without much detriment to the cultures.

MANCHESTER.

Literary and Philosophical Society, October 6.—Mr. Francis Nicholson, president, in the chair.—R. L. **Taylor** and Prof. Haldane **Gee**: Some original pen-and-ink diagrams used by Dalton. The uncertainty in Dalton's mind as to the number of atoms present in water, ammonia, carbon dioxide, and other compounds is faithfully reflected in some of the diagrams, and his attempts to depict the constitution of these and more complex bodies are full of interest.

October 20.—Mr. Francis Nicholson, president, in the chair.—Prof. S. J. **Hickson**: Sea-pens from the Malay Archipelago.—Dr. J. Stuart **Thomson**: Sea-pens from the Cape of Good Hope. These Pennatulaceæ were dredged off the coast of South Africa by the Cape Government trawler *Pieter Faure* during the ten years 1898–1907. Numerous species of scientific interest were collected, amongst which was *Cephalodiscus gilchristi*, an invertebrate having affinities with vertebrates. The collection of South African sea-pens is interesting, not so much because of the discovery of new species as on account of the fact that variations in certain species have been found which link genera together. One fine phosphorescent form, *Anthoptilum grandiflorum*, grows four or five feet in height, and is of a brick-red colour. It occurs in abundance at certain localities, probably forming dense miniature forests on the sea floor. The marine fauna of South Africa may be described as cosmopolitan in character.

PARIS.

Academy of Sciences, October 19.—M. P. Appell in the chair.—Gaston **Darboux**: A proposition relating to linear differential equations of the second order with two independent variables.—Pierre **Duhem**: The hydrodynamical paradox of Dalembert.—Edouard **Heckel**: Male castration of the giant maize of Serbia.—Comàs **Solà**: Photographic observation of a comet. The comet was found by its record on a photographic plate exposed October 17. It is probably identical with the comet discovered by Lunt at the Cape of Good Hope on September 18.—Ernest **Lebon**: A new table of divisors.—Alfred **Angot**: The earthquake of October 3, 1914. From the seismograph installed at the Parc Saint-Maur Observatory the epicentre was calculated to be 2600 kilometres distant, in Asia Minor. The epicentre proved to be only 150 kilometres from the calculated spot.

BOOKS RECEIVED.

Horses in Warfare. By E. Bell and H. Baillie-Weaver. Pp. 14. (London: Animals' Friend Society.)

Annual Amount and Distribution of Rainfall in the Philippines. By Rev. M. S. Masó. Pp. 42. (Manila: Bureau of Printing.)

Index to United States Documents relating to Foreign Affairs, 1828–61. Part i., A–H. Pp. 793. (Washington, D.C.: Carnegie Institution.)

North American Anura: Life-Histories of the Anura of Ithaca, New York. By A. H. Wright. Pp. 98+plates xxi. (Washington, D.C.: Carnegie Institution.)

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A Mountain Rain-Forest: a Contribution to the Physiological Plant Geography of Jamaica. Pp. 110. (Washington: Carnegie Institution.)

Farm Accounts. By C. S. Orwin. Pp. 209. (Cambridge University Press.) 3*s*. net.

Panama: The Canal, the Country, and the People. By A. Bullard (Albert Edwards). Revised edition. Pp. xiv+601. (London: Macmillan and Co., Ltd.) 8*s*. 6*d*. net.

South-Eastern Agricultural College, Wye. Third Report on the Cost of Food in the Production of Milk, in the Counties of Kent and Surrey. By C. H. Garrard. Pp. 82. (Wye: South-Eastern Agricultural College.)

Proceedings of the Cambridge Philosophical Society. Vol. xviii. Part 1. (Cambridge University Press.)

Journal of the College of Agriculture, Tohoku Imperial University, Sapporo, Japan. Vol. vi. Parts ii. and iii. (Sapporo.)

Bulletin of the Imperial Earthquake Investigation Committee. Vol. vi., No. iii. Vol. vii., No. i. Vol. viii., No. 1. (Tokyo.)

Pumping by Compressed Air. By E. M. Ivens. Pp. vi+244. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 12*s*. 6*d*. net.

Foundations. By Prof. M. A. Howe. Pp. vii+110. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 5*s*. 6*d*. net.

Department of the Interior. U.S. Geological Survey. Mineral Resources of the United States. Calendar Year 1913. 21 Publications. (Washington: Government Printing Office.)

Department of the Interior. U.S. Geological Survey. Water Supply Paper, 327, 345 E, 345 F. Bulletin 548, 550, 574, 579, 581 B. (Washington: Government Printing Office.)

Department of the Interior. U.S. Geological Survey. Professional Paper 83. The Middle Triassic Marine Invertebrate Faunas of North America. By J. P. Smith. Pp. 254+plates xcix. (Washington: Government Printing Office.)

Smithsonian Miscellaneous Collections. Vol. lxii. No. 3. Hodgkins Fund: Report on European Aeronautical Laboratories. By Dr. A. F. Zahm. (Washington: Smithsonian Institution.)

U.S. Department of Agriculture. Bureau of Biological Survey: North American Fauna. No. 36. (Washington: Government Printing Office.)

Proceedings of the American Philosophical Society. Vol. liii. Nos. 213, 214. (Philadelphia: Philosophical Society.)

Leland Stanford Junior University Publications. The Birds of the Latin Poets. By Prof. E. W. Martin. Pp. 260. Acceleration of Development in Fossil Cephalopoda. By Prof. J. P. Smith. Pp. 30+xv plates. A Morphological Study of Some Members of the Genus Pallavicinia. By Prof. D. H. Campbell and F. Williams. Pp. 44. (California: Stanford University.)

DIARY OF SOCIETIES.

THURSDAY, NOVEMBER 5.

ROYAL SOCIETY, at 4.30.—Acquired Radio-Activity: Sir William Crookes. Luminous Vapours Distilled from the Arc, with Applications to the Study of Spectrum Series and their Origin, II.: Hon. R. J. Strutt.—The Production of Neon and Helium by the Electrical Discharge: Prof. J. N. Collie, H. S. Patterson, and I. Masson.—The Flow of Viscous Fluids through Smooth Circular Pipes: Prof. C. H. Lees.—Quantitative Measurements of the Absorption of Light. I.: The Molecular Extinctions of the Saturated Aliphatic Ketones: F. O. Rice.—The Ignition of Gases by Condenser Discharge Sparks: Prof. W. M. Thornton.—The Spark Spectrum of Nickel under Moderate Pressures: E. G. Bilham.

CHILD STUDY SOCIETY, at 7.30.—Classification of the Deaf Child for Educational Purposes: P. M. Yearsley.

MONDAY, NOVEMBER 9.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—The Geography of the War: Hilaire Belloc.

TUESDAY, NOVEMBER 10.

ZOOLOGICAL SOCIETY, at 5.30.—Exhibition of Photographs Illustrating the Life-history of the Gannet: L. Balfour.—Lantern Exhibition showing the Differences between the Pine and Beech Martens: R. I. Pocock.—Contributions to the Anatomy and Systematic Arrangement of the Cestoidea. XV.: A New Genus and Species of the Family Acoleidæ: Dr. F. E. Beddard.—Report on the Spiders Collected by the British Ornithologists' Union Expedition and the Wollaston Expedition to Dutch New Guinea: H. R. Hogg.

MINERALOGICAL SOCIETY, at 5.30.—Albite; Its Crystal Elements, etc.: Prof. W. J. Lewis.—The Determination of the Maximum Extinction, etc., of Monoclinic Pyroxenes in Thin Sections: H. Collingridge.—Note on Calcite from the Chalk at Corfe Castle, Dorset: Prof. H. L. Bowman.—Barkevicite from Lugar, Ayrshire; and Litharge from Persia: A. Scott.—Meteoric Irons of Uwet and Angela; the Identity of Angela with La Primitiva: Dr. G. T. Prior.

THURSDAY, NOVEMBER 12.

ROYAL SOCIETY, at 4.30.—*Probable Papers:* Analyses of Agricultural Yield. I.: Spacing Experiments with Egyptian Cotton: W. L. Balls and F. S. Holton.—The Fixation of Arsenic by the Brain after Intravenous Injections of Salvarsan: J. McIntosh and P. Fildes.—The Production of Anthocyanins and Anthocyanidins. II.: A. E. Everest.—Living Observations on the Life-Cycle of a New *Flagellate-Helkesimastix Faecicola*, together with Remarks on the Question of Syngamy in the Trypanosomes: H. M. Woodcock and G. Lapage.—The Antagonistic Action of Carbon Dioxide and Adrenalin on the Heart: S. W. Patterson.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Cables: C. J. Beaver.

MATHEMATICAL SOCIETY, at 5.30.—Annual General Meeting. Presidential Address: Mathematical Research; Prof. Love.

FRIDAY, NOVEMBER 13.

ALCHEMICAL SOCIETY, at 8.15.—The Movement of Alchemical Research in France: Actual Traces of Transmutation: W. de Kerlor.

ROYAL ASTRONOMICAL SOCIETY, at 5.

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